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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/726,721

11/30/2000

Kazuhiro Nakamigawa

14118

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06/04/2004

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EXAMINER

ABDULSELAM, ABBAS I

ART UNIT

PAPER NUMBER

2674

DATE MAILED: 06/04/2004

15

Please find below and/or attached an Office communication concerning this application or proceeding.

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## Office Action Summary

Application No.

09/726,721

Applicant(s)

KAZUHIRO NAKAMIGAWA

Examiner

Abbas I Abdulsalam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7 and 8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7 and 8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see # 14, filed 05/15/04, with respect to the rejection(s) of claim(s) 7-8 under U.S.C. (103) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Hashimoto et al. (USPN 5990940).

### **Claim Rejections 35 U.S.C. 103**

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takita et al. (USPN 6151005) in view of Komo (USPN 6490013) Hashimoto et al. (USPN 5990940).

Regarding claim 7, Takita teaches driving a liquid crystal panel in which an input and an output are configured with a buffer and correction circuits. Takita teaches a group of invertor circuits (3806) for inverting a display data, the inverted data generated (3807), a voltage selector (3712), selector elements (3804), switching elements (SWL), and a voltage divider circuit, which is supplied, with the output signal of the gate circuit. Takita also teaches that the voltage divider circuit that selects and delivers the voltage and the gate circuit that corrects a signal corresponding to the display data. See col. 2, lines 12-21 and Fig 38. In addition, Takita teaches a

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selection of power source voltage,  $V_{cc}$  &  $V_{ss}$ , by switching a selecting element. (4104). See col. 42, lines 39-49, Fig 41, and Fig 42. Furthermore, Takita teaches a switching element (SWLO, to SWL3 and SWR0 to SWR3), and indicates a switching element in terms of an operating voltage width equal to the width of the power source voltage. See col. 2, lines 15-21, col. 6, lines 34-38 and Fig 38.

However, Takita does not teach the inventor-selector configuration and with the inverter inverting a digital input signal such that the selector chooses either the inverted signal or the digital image input signal. Komo on the other hand discloses that a differential output amplifier (73) outputs a non-inverted signal, a' and an inverted signal b' via a first buffer 74 and a second buffer (75) respectively. See col. 9, lines 38-55 and Fig. 5. Furthermore, Komo teaches an RGB driver processing circuit (70) as shown in Fig. 5 including a multiplexer (82) alternately selecting a non-inverted signal (a) and inverted signal (b) based on a inversion control signal. See col. 9, lines 50-55.

Therefore, it would have been obvious to one having a skill in the art at the time the invention was made to modify Takita's liquid crystal display system to adapt Komo's multiplexer (82) as configured in Fig. 5. One would have been motivated in view of the suggestion in Komo that the amplifier (73) equivalently performs the desired inversion of a signal, and the multiplexer (82) is functionally equivalent to the desired selector. The use of a multiplexer (82) and amplifier helps function driving circuits of a liquid crystal display system as taught by Komo.

Takita does not teach "a microprocessor outputting a switching signal for inputting the switching signal to the selector". Hashimoto on the other hand teaches changeover switches

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SW4, SW5, SW6 and SW7 simultaneously open or close in response to a common switching signal Sd which is output from the microprocessor (11). See Fig. 2

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Takita's display system to incorporate Hashimoto's microprocessor (11). One would have been motivated in view of the suggestion in Hashimoto that the microprocessor (11) is equivalent and performs identical function as the desired microprocessor. The use of a microprocessor helps an adjustment system of video monitors used as display terminals of computer systems, as taught by Hashimoto.

3. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takita and Komo, Hashimoto and in further view of Takahara et al. (USPN 5196738).

Takita as modified has been discussed above. However, Takita does not teach the use of an LCD including plural gradation power sources which are prepared corresponding to types of liquid crystal panels. Takahara on the other hand teaches plurality of power source voltage terminals having respective, different potential (voltage) levels, and an output terminal for providing a voltage to a display panel according to voltages applied through the voltage terminals. See col. 1, lines 38-50.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Takita's liquid crystal system to include Takahara's plurality of power source terminals. One would have been motivated in view of the suggestion in Takahara that the plural power source terminals equivalently satisfy the desired plural power

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sources. The use of plural power source terminals helps function a liquid crystal display system as taught by Takahara et al.

### **Conclusion**

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following art is cited for further reference.

U.S. Pat. No. 5,621,283 to Watson et al.

5. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Abbas Abdulsalam** whose telephone number is **(703) 305-8591**. The examiner can normally be reached on Monday through Friday (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709**.

**Any response to this action should be mailed to:**

Commissioner of patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314**

Hand delivered responses should be brought to Crystal Park II, Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology center 2600 customer Service office whose telephone number is (703) 306-0377.

Abbas Abdulsalam

Examiner

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May 27, 2004



**XIAO WU**  
**PRIMARY EXAMINER**